APPENDIX B
Potable and Wastewater Treatment Facilities

POTABLE WATER TREATMENT FACILITIES

Most potable water used in the Upper East Coast (UEC) Planning Area is produced by large water treatment facilities, smaller "package" water treatment plants and self-supply. This section will focus on the larger regional facilities (equal to or greater than 0.10 MGD), which due to their existing and/or future design capacities, could have an impact on the water resource.

There are 20 existing water treatment facilities with a capacity of 0.10 MGD or greater in the planning region. These water treatment facilities are mostly located in the urbanized areas throughout the UEC Planning Area. The facilities and other information are tabulated in **Table B-1**. The 2003 potable water treatment facility service areas are shown in **Figure B-1** and the projected 2025 service area facilities are shown in **Figure B-2**.

Summary Descriptions of Existing Water Facilities:

Fifteen facilities use the Surficial Aquifer as their supply source only; one facility uses the Floridan Aquifer as their supply source only, and three use a combination of the Surficial Aquifer and Floridan Aquifer.

Summary descriptions for each of the water treatment facilities located in the UEC Planning Area are presented in this section for each utility. The following information is presented:

Raw Water Supply – This section provides a summary of withdrawal facilities, supply sources and 2003 (October 2002 – September 2003) pumpage. The annual allocations are expressed in million gallons per year (MGY) and the maximum daily allocations are expressed in million gallons per day (MGD).

Treatment – This section presents the current Florida Department of Environmental Protection (FDEP)-rated capacity, the method of treatment and the average daily flow. The concentrate/brine reject disposal method, if a desalination technology is used for treatment, is also provided.

Proposed/Future – This section states any current construction or permitting underway, future treatment facility expansions and plans and projected utility flows (as provided by the utility).

Martin County Potable Water Treatment Facilities

Indiantown Company

Raw Water Supply

Raw water is withdrawn from eight Surficial Aquifer wells located in Indiantown. The wells are 8 to 10 inches in diameter, have total depths between 115 and 125 feet and cased depths between 85 and 125 feet. These wells have pumping capacities between 85 and 250 gallons per minute (GPM).

The current SFWMD permit was issued on November 14, 2002 and expires on November 14, 2007.

Annual Allocation:	355 MGY (0.973 MGD)
Maximum Daily Allocation:	1.4 MGD

The 2003 average daily pumpage from the Surficial Aquifer wells was 0.606 MGD with a maximum day of 0.980 MGD.

Treatment

A 1.2-MGD FDEP-rated capacity aeration and chlorination facility provides treatment. The average daily demand was 0.553 MGD with a maximum day average of 0.811 MGD.

Proposed/Future

The projected water use for the service area is expected to increase to 1.4 MGD average daily demand by the year 2006, based on 300 gallons per day per capita and a population of 5,800. The utility is considering expanding the plant to 1.5 MGD using aeration and filtration.

Information Source

Information was provided by the Indiantown Company and SFWMD water use permit files.

Martin County Correctional Institute

Raw Water Supply

Raw water is withdrawn from nine Surficial Aquifer wells. The wells are 8 to 10 inches in diameter, with total depths between 100 and 139 feet and cased depths between 75 and 109 feet. The well pumping capacities are between 100 and 225 GPM.

The current SFWMD permit was issued on November 15, 2001 and expires on November 15, 2006.

Annual Allocation:	100 MGY (0.27 MGD)
Maximum Daily Allocation	0.4096 MGD

The 2003 average daily pumpage from the Surficial Aquifer was 0.195 MGD.

Treatment

The treatment method employed at this facility is lime softening and reverse osmosis (RO). The lime softening plant has a FDEP-rated capacity of 0.432 MGD and a RO capacity of 0.216 MGD. The 2003 average daily demand was 0.195 MGD. The RO facility was shut down in May 2001 due to operational problems.

Proposed/Future

There is a plan to interconnect Indiantown's utility with the Correctional facilities public water supply. This was initiated because the Correctional Institute came close to losing the ability to provide water several years ago. This was due to well failures, RO treatment problems and drought causing increased demands.

Information Source

Information was obtained from the FDEP and SFWMD files.

Martin County – Martin Downs

Raw Water Supply

Raw water is withdrawn from five existing Surficial Aquifer wells located in the Martin Downs area. The wells are 12 inches in diameter, have total depths of 125 and 165 feet and cased depths of 70 and 165 feet. The wells were drilled in 1992, 1997 and 2001. The wells have a pumping capacity of 300 to 700 GPM.

The current SFWMD permit was issued on August 14, 1997 and expires on August 14, 2007. The approved allocations are:

Annual Allocation:	586 MGY (1.50 MGD)
Maximum Daily Allocation:	2.68 MGD

The 2003 average daily pumpage was 1.79 MGD with a maximum day of 2.07 MGD.

Treatment

A 4.0-MGD FDEP-rated lime softening facility located in Martin County provides treatment. The 2003 average daily demand was 1.79 MGD with a maximum daily flow of 2.27 MGD.

Proposed/Future

In 2003, Martin County Utilities applied for a permit modification to combine the four water supply facilities it currently operates (North, Martin Downs, Port Salerno and Tropical Farms) into a single Martin County Consolidated Water System (MCCWS). The permit modification has not been issued. Martin County proposes to construct five Floridan Aquifer wells, a RO plant and an iron treatment facility for Surficial Aquifer water treatment at their Tropical Farms facility. The county's current long-term plan considers the abandonment of the Martin Downs plant, converting it to a water pump station in 2008.

Information Source

Information was provided by Martin County Utilities and SFWMD water use files.

Martin County – North

Raw Water Supply

Raw water is withdrawn from Surficial and Floridan Aquifer wells located in Jensen Beach. There are ten existing Surficial Aquifer wells, which are 8 inches in diameter, with total depths between 115 and 152 feet and cased depths between 70 and 100 feet. The wells were drilled between 1982 and 1988. The well pumping capacity is between 115 and 140 GPM. Five additional wells were completed in 2002. Their pumping capacity is 200 to 700 GPM.

There are four existing Floridan Aquifer wells, which are 12 inches in diameter with total depths between 1,260 and 1,400 feet and cased depths between 967 to 1,165 feet. The wells were drilled in 1998 and 2000. The Floridan Aquifer wells have a combined capacity of 1,578 GPM.

The current SFWMD permit was issued on March 15, 2001 and expires on March 15, 2006. The approved allocations are:

Combined Surficial and Floridan Aquifers	
Annual Allocation:	2,396 MGY (6.56 MGD)
Maximum Daily Allocation:	8.07 MGD

The 2003 average daily pumpage from the Surficial Aquifer was 2.04 MGD and the Floridan Aquifer was 4.11 MGD, or 6.15 MGD combined, with a maximum day of 7.91 MGD (Surficial – 2.60 MGD; Floridan – 5.31 MGD).

Treatment

The treatment methods employed at this facility are lime softening and RO. The lime softening plant has a FDEP-rated capacity of 3.3 MGD. The RO plant has a capacity of 5.5 MGD and was placed in operation in 1994. Concentrate is disposed of by deep well injection. The unaccounted-for water is estimated to be about 13.3 percent.

Proposed/Future

In 2003, Martin County Utilities applied for a permit modification to combine the four water supply facilities it currently operates (North, Martin Downs, Port Salerno and Tropical Farms) into a single Martin County Consolidated Water System (MCCWS). The permit modification has not been issued.

Information Source

Information was provided by Martin County Utilities and SFWMD water use files.

Martin County – Port Salerno

Raw Water

Raw water is withdrawn from five Surficial Aquifer wells located in the Salerno area. The wells are 6 to 8 inches in diameter with total depths between 100 and 130 feet, and cased depths between 40 and 63 feet. The wells were drilled between 1983 and 1985. The pumping capacities of the wells are between 270 and 450 GPM.

The current SFWMD permit was issued on October 14, 1993 and expired on December 31, 1997. The approved allocations were:

Annual Allocation:	1,046 MGY (2.86 MGD)
Maximum Daily Allocation:	4.41 MGD

The 2003 average daily pumpage was 0.012 MGD with a maximum day of 0.04 MGD.

Treatment

Treatment is provided by a facility known as the Vista Salerno Plant. The treatment method employed is aeration and chlorination. The plant has a FDEP-rated capacity of 0.64 MGD. The 2003 average daily demand was 0.012 MGD with a maximum daily flow of 0.105. The unaccounted-for water is estimated to be about 10.2 percent.

Proposed/Future

In 2003, Martin County Utilities applied for a permit modification to combine the four water supply facilities it currently operates (North, Martin Downs, Port Salerno and Tropical Farms) into a single Martin County Consolidated Water System (MCCWS). The permit modification has not been issued. This facility will be modified to supplement reclaimed water supplies in the area, and disconnected from the water supply system in the future. Public water supply will be provided from Martin County's Tropical Farms facility when this occurs.

Information Source

Information was provided by Martin County Utilities and SFWMD water use files.

Martin County – Tropical Farms

Raw Water Supply

Raw water is withdrawn from eight Surficial Aquifer wells. The wells are 8 inches in diameter, have total depths of 100 feet and cased depths of 60 feet. The pumping capacities of the wells are 100 and 150 GPM.

The current SFWMD permit was issued on March 14, 1996 and expires on March 14, 2006. The approved allocations are:

Annual Allocation:	487 MGY (1.33 MGD)
Maximum Daily Allocation:	2.27 MGD

The 2003 average daily pumpage was 1.38 MGD and the maximum day flow was 1.13 MGD.

Treatment

A 1.5-MGD FDEP-rated membrane softening treatment facility with an efficiency of about 80 percent provides treatment. The facility is located in Martin County. Concentrate from the treatment process is blended with reclaimed water for reuse.

Proposed/Future

In 2003, Martin County Utilities applied for a permit modification to combine the four water supply facilities it currently operates (Port Salerno, Tropical Farms and Martin Downs) into a single Martin County Consolidated Water System (MCCWS). The permit modification has not been issued. Martin County is constructing five Floridan Aquifer wells, a RO plant and an iron treatment facility for Surficial Aquifer water treatment at this facility.

Information Source

Information was provided by Martin County Utilities and SFWMD water use files.

Miles Grant

Raw Water Supply

Raw water supply is withdrawn from six Surficial Aquifer wells located in eastern Martin County. The wells are 8 inches in diameter, have total depths between 127 and 143 feet and cased depths between 110 and 126 feet. These wells were drilled in 1972 and 1975 and a have pumping capacity of 150 GPM.

The current SFWMD permit was issued on September 4, 2003 and expires on September 7, 2008.

Annual Allocation:	53 MGY (0.145 MGD)
Maximum Monthly Allocation:	6.39 MGD

The 2003 average daily pumpage from the Surficial Aquifer wells was 0.144 MGD with a maximum day of 0.242 MGD.

Treatment

A 0.330-MGD FDEP-rated capacity lime softening treatment facility with chlorination and filtration provides treatment. The 2003 average daily demand was 0.144 MGD with a maximum day of 0.242 MGD. The unaccounted-for water is estimated at about 21.40 percent.

Future/Proposed

The service area is essentially built-out. No further plant expansion or modifications are required or proposed at this time.

Information Source

Information was provided by Utilities Inc., of Florida and SFWMD water use files.

Pipers Landing

Raw Water Supply

Raw water is withdrawn from two Surficial Aquifer wells. The wells are 8 and 12 inches in diameter, have total depths of 130 and 141 feet and cased depths of 100 feet. The wells were drilled in 1981, with pumping capacities between 145 and 350 GPM.

The current SFWMD permit was issued on October 13, 1994 and expires on November 10, 2004. The approved allocations are:

Annual Allocation:	44 MGY (0.12 MGD)
Maximum Daily Allocation:	0.18 MGD

The 2003 average daily pumpage was 0.133 MGD with a maximum day of 0.190 MGD.

Treatment

In 2003, treatment was provided by a 0.200-MGD FDEP-rated capacity aeration facility.

Proposed/Future

Piper's Landing is built-out; therefore, no growth in water demand is anticipated. There are currently 301 houses with an estimated population of 678. The per capita water use is 178 gallons per day.

Information Source

Information was provided by Piper's Landing and SFWMD water use permit files.

Plantation

Raw Water

Raw water is withdrawn from two existing Floridan Aquifer wells. The wells are 8 inches in diameter, have a total depth of 1,025 feet and cased depths of 590 and 1000 feet. The wells have a capacity of 420 GPM.

The current SFWMD permit was issued on January 11, 1996 and will expire on January 11, 2006. The approved allocations are:

Annual Allocation:	82 MGY (0.22 MGD)
Maximum Daily Allocation:	0.51 MGD

The 2003 average daily pumpage was 0.151 MGD.

Treatment

Treatment is provided by a 0.40-MGD FDEP-rated capacity RO facility.

Proposed/Future

There are no plans for expanding this facility.

Information Source

Information was provided by SFWMD water use files.

Sailfish Point

Raw Water Supply

Raw water is withdrawn from two existing Floridan Aquifer wells located on Hutchinson Island. The wells are 6 inches in diameter, have total depths between 1,000 and 1,100 feet and cased depths of 662 and 720 feet. The wells were drilled in 1978 and 1982. The capacities for both wells are 1,400 GPM.

The current SFWMD permit was issued on October 10, 2002 and will expire on October 10, 2022. The approved allocations are:

Annual Allocation:	80 MGY (0.219 MGD)
Maximum Daily Allocation:	0.44 MGD

The 2003 average daily pumpage was 0.207 MGD with a maximum day of 0.388 MGD.

Treatment Method

Treatment is provided by a 0.35-MGD FDEP-rated capacity RO treatment facility.

Proposed/Future

There are no plans to expand the treatment capacity beyond this quantity. No additional facilities are proposed.

Information Source

Information was obtained from the Sailfish Point Utility Corporation and SFWMD water use files.

South Martin Regional Utility

South Martin Regional Utility (SMRU) was formed in 1998 when the Town of Jupiter Island purchased Hydratech Utilities and Hobe Sound Water Company, two privately owned utilities. These two utilities were combined and now operate as a public utility, known as the South Martin Regional Utility.

Raw Water Supply

Raw water is withdrawn from approximately 27 existing wells (two Floridan Aquifer System wells and 25 Surficial Aquifer System wells) located within the SMRU service area. There are four proposed Surficial Aquifer System wells. The wells are 4 to 20 inches in diameter, have total depths between 82 and 1,400 feet and cased depths between 48 and 1,150 feet. The wells were drilled between 1963 and 2003. The well capacities are between 100 and 1,725 GPM.

The current SFWMD permit was issued on January 9, 2003 and will expire on November 9, 2010. The approved allocations are:

Annual Allocation:	1,997 MGY (5.47 MGD)
Maximum Daily Allocation:	8.41 MGD

These allocations are a combination of Surficial and Floridan Aquifer withdrawals.

Treatment

Treatment is provided by aeration and RO. The combined capacity of these treatment systems is 8.14 MGD FDEP-rated capacity. Concentrate disposal is via discharge to the ocean. The 2003 average daily demand was 4.24 MGD with a maximum day of 6.74 MGD.

Proposed/Future

The utility estimates water use for the service area will increase to 5.07 MGD average daily demand with a maximum day flow of 8.07 MGD by 2010. They plan to continue to use the Floridan and Surficial Aquifers.

Information Source

Information was provided by the South Martin Regional Utility and SFWMD water use permit files.

City of Stuart

Raw Water Supply

Raw water is withdrawn from 24 Surficial Aquifer wells located in the central and southern portion of the City of Stuart. In addition to the city's 24 Surficial Aquifer wells, the city receives 0.900 MGD from eight wells operated by Northrup Grumman Corporation in accordance with Grumman's water use permit. The wells are 6 to 8 inches in diameter, have total depths between 120 and 135 feet and cased depths between 104 and 120 feet. The wells were drilled between 1950 and 1979. The pumping capacities of the wells are between 140 and 520 GPM.

The current SFWMD permit was issued on May 10, 2001 and expires on May 10, 2006. The approved allocations are:

Annual Allocation:	1,087 MGY (2.97 MGD)
Maximum Daily Allocation:	4.53 MGD

The 2003 average daily pumpage was 3.32 MGD with a maximum day of 3.778 MGD.

Treatment

A 6.0-MGD FDEP-rated capacity lime softening facility provides treatment. The 2003 average daily demand was 3.32 MGD with a maximum day of 3.778 MGD. The 2003 unaccounted for water was estimated to be approximately 12 percent.

Future

The 2001 City of Stuart Reserve Capacity Technical Memorandum indicates that the build-out average daily finished water demand for the service area is anticipated to increase to 3.70 MGD with a maximum day flow of 5.55 MGD in 2041.

Information Source

Information was provided by the City of Stuart and SFWMD water use files.

St. Lucie County Potable Water Treatment Facilities

Fort Pierce

Raw Water Supply

Raw water is withdrawn from Surficial and Floridan Aquifer wells located within the Fort Pierce area of St. Lucie County. There are 42 existing Surficial Aquifer wells, which were drilled between 1963 and 1987. These wells are between 10 and 16 inches in diameter, have total depths between 92 and 129 feet, cased depths between 45 and 72 feet and pumping capacities between 200 and 700 GPM. There are nine Floridan Aquifer wells that were drilled between 1986 and 2001. These wells are either 12 or 16 inches in diameter, have total depths between 1,000 and 1,300 feet, cased depths of approximately 500 feet and pumping capacities between 600 and 1,200 GPM. One of these Floridan Aquifer wells is used as a blending well only.

The current SFWMD permit was issued on July 11, 1996 and expires on July 11, 2006. The approved allocations are:

Surficial Aquifer	
Annual Allocation:	4,007 MGY (10.98 MGD)
Maximum Daily Allocation:	14.6 MGD
Floridan Aquifer	
Maximum Daily Allocation:	6.8 MGD
Maximum Daily Allocation from Both:	14.6 MGD

The 2003 average pumpage was 9.15 MGD (Surficial – 3.15 MGD; Floridan – 6.0 MGD).

Treatment

The Fort Pierce Utility Authority (FPUA) Water Treatment Plant employs two methods of treatment, lime softening system and Reverse Osmosis (RO). The RO system was constructed in 2002. The RO system produces approximately 5.3 MGD. This water is then blended with water treated by a 14.7-MGD lime softening facility. The combined system has a FDEP-rated capacity of 20 MGD.

Proposed/Future

Fort Pierce Utility Authority Engineering predicts the water service demand to increase to 17.3 MGD average daily demand with a maximum day flow of 21.8 MGD by

the year 2025. The current master plan is in review and will be available in late 2004. More accurate water demand projections will be available at that time.

Information Source

Information was provided by the Fort Pierce Utility Authority (FPUA) and SFWMD water use files.

Harbour Ridge

Raw Water Supply

Raw water is withdrawn from two Surficial Aquifer wells located on the Harbour Ridge property in St. Lucie County. The wells are 8 inches in diameter, have total depths of 110 feet and are cased to 80 feet. These wells were drilled in 1982 and have pumping capacities of 250 GPM.

The current SFWMD permit was issued on June 29, 2003 and expires on June 29, 2008. The approved allocations are:

Annual Allocation:	52.59 MGY (0.144 MGD)
Maximum Daily Allocation:	0.20 MGD

The 2003 average daily pumpage was 0.125 MGD with a maximum daily flow of 0.289 MGD

Treatment

The treatment employed at this facility is lime softening, chlorination and ammoniation with a FDEP-rated capacity of 0.360 MGD. The aqueous ammonia feed system was employed to reduce Total Trihalomethanes (TTHM) levels.

Proposed/Future

Harbour Ridge reached build-out in 1996 with 695 housing units and a population of approximately 1,573 persons. There are no plans to modify existing allocations/ or treatment.

Information Source

Information was provided by the Harbour Ridge utility and SFWMD water use files.

Meadowood/Panther Woods Utility

Raw Water Supply

Raw water is withdrawn from the Surficial Aquifer from wells located within the Fort Pierce area of St. Lucie County. There are four existing Surficial Aquifer wells, which are between 3 and 4 inches in diameter, have total depths between 90 and 125 feet and cased depths between 45 and 70 feet. The wells were drilled between 1987 and 1999, and have pumping capacities between 100 and 200 GPM.

The current SFWMD permit was issued on February 10, 1994 and expired on February 10, 2004*****. The approved allocations are:

Annual Allocation:	66.98 MGY (0.183 MGD)
Maximum Daily Allocation:	0.323 MGD

The 2003 average daily pumpage from the Surficial Aquifer wells was 0.050 MGD; the minimum daily pumpage was 0.030 with a maximum day of 0.080 MGD.

Treatment

The treatment method employed at this facility is lime softening. The facility has a FDEP-rated capacity of 0.20-MGD. The 2003 average daily demand was 0.045 MGD with a maximum daily flow of 0.70 MGD.

Proposed/Future

No plans at this time.

Information Source

Information was provided by Walsh Environmental Services, Inc. and SFWMD water use permit files.

***Note**: When this document was prepared, Meadowood/Panther Woods was in the process of submitting a revised consumptive use permit application.

Port St. Lucie

Raw Water Supply

Raw water is withdrawn from 29 Surficial Aquifer wells and six Floridan Aquifer wells located in the central area of Port St. Lucie. The Surficial Aquifer wells are 8 inches in diameter and the Floridan Aquifer wells are 16 to 24 inches in diameter. The Surficial Aquifer wells have total depths of 90 to 114 feet, and cased depths between 40 and 79 feet. The Floridan Aquifer wells have total depths of 1,350 feet, and cased depths to 650 feet. The Surficial Aquifer wells were drilled between 1969 and 1996 and have well capacities between 150 and 600 GPM. The Floridan Aquifer wells were drilled between 1997 and 2003 and have capacities of 1,700 to 1,800 GPM.

The current SFWMD permit was issued on October 11, 2001 and expires on October 11, 2006. The approved allocations are:

Annual Allocation:	5,137 MGY (14.07 MGD)
Maximum Daily Allocation:	19.56 MGD

The 2003 average daily pumpage was 9.29 MGD (Surficial – 4.22 MGD/ Floridan – 5.07 MGD).

Treatment

An 8.0-MGD FDEP-rated capacity lime softening facility and a 10.0-MGD FDEP-rated capacity RO facility provides treatment. The RO plant has an efficiency of about 80 percent. The remaining 20 percent is concentrate and is disposed of via deep well injection.

Proposed/Future

A 6.0-MGD RO plant is under construction at the city's LTC Ranch that is designed for expansion up to 20 MGD. The water treatment facility will consist of an operations building, transfer pumps, odor control facilities and a 4.0 MGD potable water ground storage reservoir. The storage tank and high service pumps were completed in 2003. A deep injection well will be constructed to provide disposal of concentrate from the plant. For secondary disposal, a pumping system will be designed to transfer concentrate to the Northport wastewater treatment facility for disposal.

Information Source

Information was supplied by the City of Port St. Lucie and SFWMD water use files.

Reserve Utility Corporation

Raw Water Supply

Raw water is withdrawn from five Surficial Aquifer wells located west of the St. Lucie West area. The wells are six inches in diameter, have total depths between 80 and 88 feet and cased depths between 40 and 55 feet. The wells were drilled between 1986 and 1990 and have capacities between 30 and 80 GPM.

The current SFWMD permit was issued on May 9, 2002 and expires on May 9, 2007. The approved allocations are:

Annual Allocation:	151 MGY (0.413 MGD)
Maximum Daily Allocation:	0.410 MGD

The 2003 average daily pumpage was 0.243 MGD with a maximum day of 0.379 MGD.

Treatment

A 0.414-MGD FDEP-rated capacity lime softening facility provides treatment. The 2003 average daily flow was 0.193 MGD with a maximum day of 0.318 MGD.

Proposed/Future

The Reserve Utility Corporation plans to purchase additional water as needed, and install a direct fill line to the storage tank system at the Reserve facility.

***Note:** The Reserve Utility receives 50,000 gallons per day of potable water from St. Lucie West and will receive all of its water and sewer service from St. Lucie West Service District in the future.

Information Source

Information was obtained from the Reserve Utility Corporation and SFWMD water use permit files.

Spanish Lakes Fairways

Raw Water Supply

Raw water is drawn from four Surficial Aquifer wells all located on site. The wells are 8 inches in diameter and have total depths between 80 and 90 feet. The wells are cased between 65 and 75 feet. The pumping capacities of the wells are 150 GPM. The wells were drilled in 1988.

The current SFWMD permit was issued on April 10, 2003 and expires on April 10, 2013. The approved allocations are:

Annual Allocation:	140.16 MGY (0.38 MGD)
Maximum Daily Allocation:	0.73 MGD

The average daily pumpage for 2003 was 0.239 MGD with a maximum daily flow of 0.326

Treatment Method

A 0.570-MGD FDEP-rated capacity membrane softening facility located in northern St. Lucie County provides treatment. The average daily demand for 2003 was 0.219 MGD with a maximum daily pumpage of 0.322 MGD. There was an average 0.02 MGD average daily loss due to brine discharge.

Proposed/Future

There are 1,493 homes in the community, with a total of 1,520 at build-out and a seasonal population of approximately 2,550. There are no plans for future expansion.

Information Source

Information was obtained from Spanish Lakes Fairways and SFWMD water use files.

St. Lucie County – North (Holiday Pines)

Raw Water Supply

Raw water is withdrawn from two Surficial Aquifer wells located in the Holiday Pines area. The wells are 8 inches in diameter, have total depths of 95 and 108 feet and cased depths of 65 and 76 feet. The wells were drilled in 1977 and 1989 and have capacities of 200 GPM.

When this document was prepared, the current SFWMD permit had expired, but the utility company had applied for a new permit. The allocations are:

Annual Allocation:	153 MGY (0.419 MGD)
Maximum Daily Allocation:	0.58 MGD

The 2003 average daily pumpage was 0.122 MGD with a maximum day of 0.202 MGD.

Treatment

Treatment is provided by a 0.24-MGD FDEP-rated capacity membrane softening treatment facility. The 2003 average daily demand was 0.112 MGD with a maximum day of 0.170 MGD. The unaccounted-for water is estimated to be about 4 percent. Concentrate is disposed of via blending with wastewater treatment facility effluent, which is discharged into rapid infiltration basins (RIBS).

Proposed/Future

The future water use is unknown at this time due to heavy growth in the area and the possibility of a different water source.

Information Source

Information was provided by St. Lucie County Utilities and SFWMD water use files.

St. Lucie West Services District

Raw Water Supply

Raw water is withdrawn from 12 Surficial Aquifer wells located in the St. Lucie West area. The wells are 8 inches in diameter, have total depths between 60 and 75 feet and cased depths between 37 and 46 feet. Each well has a capacity of 175 GPM.

The current SFWMD permit was issued on May 14, 1992 and expired May 14, 2001. The approved allocations are:

Annual Allocation:	979.00 MGY (2.68 MGD)
Maximum Daily Allocation:	4.03 MGD

The 2003 average daily pumpage was 1.195 MGD with a maximum day of 1.78 MGD.

Treatment

Treatment is provided by a 2.0-MGD FDEP-rated capacity membrane softening treatment facility. The 2003 average daily demand was 0.95 MGD with a maximum day of 1.41 MGD. The unaccounted-for water is estimated to be approximately 5 percent. Concentrate is disposed of via blending with reclaimed water in St. Lucie West's irrigation water holding pond.

Proposed/Future

The current consumptive use permit allows for construction of an additional 19 Surficial Aquifer wells. The utility projects water use for the service area to increase to 2.12 MGD average daily demand with a maximum daily withdrawal of 4.03 MGD based on 100 gallons per day per capita and a population of 22,600. The plant was designed so that it could be expanded to 10 MGD.

Information Source

Information was provided by St. Lucie West and SFWMD water use permit files.

***Note:** St. Lucie West is currently applying for a 20-year consumptive use permit renewal. This renewal involves the Surficial and Floridan Aquifer Systems. The Water Management District has requested additional information from St. Lucie West to support their request. Also, the Reserve Utility is under contract to receive 50,000 gallons per day from St. Lucie West and will receive all of its water and sewer service from St. Lucie West.

Table B-1. Potable Water Treatment Facilities in the UEC Planning Area – 2003.

Facility	SFWMD		2003 Total Raw Water Pumped (MGD)[a]	Withdrawal Source		FDEP Rated Capa-city (MGD)	Treatment Method		
	Permit Number	Annual Allocation (MGD)		Surficial Aquifer System	Floridan Aquifer System		Lime Softening	Membrane Technology	Aeration
Martin County									
Indiantown	43-00041-W	Average - 0.97; Maximum - 1.4	0.61	0.61		1.20			1.20
Martin County Correctional	43-00089-W	Average- .27; Maximum - .4096	0.20	0.20		0.65	0.43	0.22	
Martin County – Martin Downs	43-00169-W	Average - 1.50 Maximum - 2.68	1.79	1.79		4.00	4.00		
Martin County – North[b]	43-00102-W	Average - 6.56 Maximum - 8.07	6.15	2.04	4.11	8.80	3.30	5.50	
Martin County – Port Salerno	43-00089-W	Average- 2.86; Maximum - 4.41	0.01	0.01		0.64			0.64
Martin County – Tropical Farms	43-00752-W	Average - 1.33 Maximum - 2.27	1.38	1.38		1.50		1.50	
Miles Grant	43-00086-W	Average - .145; Maximum - 6.39	0.14	0.14		0.33	0.33		
Piper's Landing	43-00173-W	Average - 0.12; Maximum - .18	0.13	0.13		0.20			0.20
Plantation	43-00328-W	Average - .22; Maximum. - .51	0.15		0.15	0.40		0.40	
Sailfish Point	43-00146-W	Average - .219; Maximum - 0.44	0.21		0.21	0.35		0.35	
South Martin Regional	43-00066-W	Average - 5.47; Maximum - 8.41	4.24	4.24		8.14		8.14	
Stuart	43-00053-W	Average - 2.97; Maximum - 4.53	3.32	3.32		6.00	6.00		
Martin County Subtotals			18.33	13.86	4.47	32.21	14.06	16.11	2.04

Table B-1. Potable Water Treatment Facilities in the UEC – 2003 (Continued).

Facility	SFWMD		2003 Total Raw Water Pumped (MGD)[a]	Withdrawal Source		FDEP Rated Capa-city (MGD)	Treatment Method		
	Permit Number	Annual Allocation (MGD)		Surficial Aquifer System	Floridan Aquifer System		Lime Softening	Membrane Technology	Aeration
St. Lucie County									
Ft. Pierce[c]	56-00085-W	Average - 10.98; Maximum - 14.6	9.15	3.15	6.00	20.00	14.70	5.30	
Harbour Ridge	56-00449-W	Average - 0.144; Maximum - 0.20	0.13	0.13		0.36	0.36		
Meadowood /Panther Woods	56-00462-W	Average - .183; Maximum - .323	0.05	0.05		0.20	0.20		
Port St. Lucie[c]	56-00142-W	Average - 14.07; Maximum - 19.56	9.29	4.22	5.07	18.00	6.85	10.00	
Reserve[d]	56-00552-W	Average - 0.413; Maximum - .410	0.24	0.24		0.41	0.41		
Spanish Lakes Fairways	56-00401-W	Average - 0.38; Maximum - 0.73	0.24	0.24		0.57		0.57	
St. Lucie County – North (Holiday Pines)	56-00406-W	Average - .419; Maximum - .58	0.12	0.12		0.24		0.24	
St. Lucie West[d]	56-00614-W	Average - 2.68; Maximum - 4.03	1.20	1.20		2.00		2.00	
St. Lucie County Subtotals			20.42	9.35	11.07	41.78	22.52	18.11	0.00
UEC Planning Totals			38.75	23.21	15.54	73.99	36.58	34.22	2.04

a. Average withdrawal from October 2002 to September 2003.

b. Leilani Heights, Fisherman's Haven, Fox Run and Pinelake Village have been connected to Martin County North. All of the wells will be de-commissioned, with the exception of Leilani Heights, which will be kept as reserve wells.

c. The 2003 raw water figure represents the combined total for both Surficial and Floridan Aquifers.

d. The Reserve Utility is under contract to receive 50,000 gallons per day from St. Lucie West and will receive all of its water and sewer service from St. Lucie West Service District.

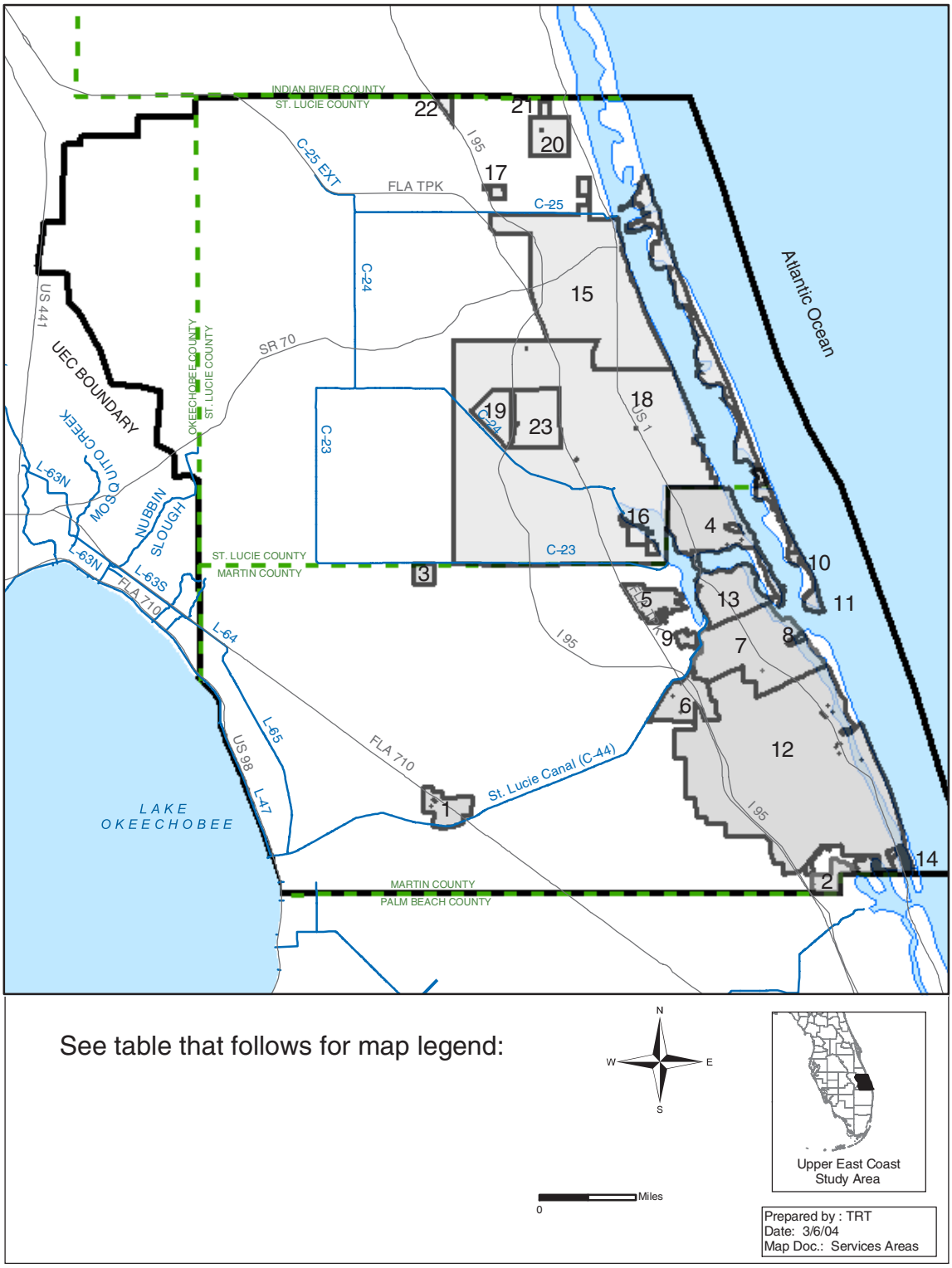

Figure B-1. Potable Water Treatment Facility Service Areas – 2003.

Table B-2. Potable Water Treatment Facility Service Areas Map Legend – 2003.

Martin County	2003 Service Area Map Number
Indiantown Company	1
Jupiter	2
Martin County Correctional	3
Martin County – Martin Downs	4
Martin County – North	5
Martin County – Port Salerno	6
Martin County – Tropical Farms	7
Miles Grant	8
Piper's Landing	9
Plantation Utilities	10
Sailfish Point	11
South Martin Regional	12
Stuart	13
Tequesta	14
St. Lucie County	
Fort Pierce	15
Harbour Ridge	16
Panther Woods	17
Port St. Lucie	18
Reserve	19
St. Lucie County – North	20
Spanish Lakes Country Club	21
Spanish Lakes Fairways	22
St. Lucie West	23

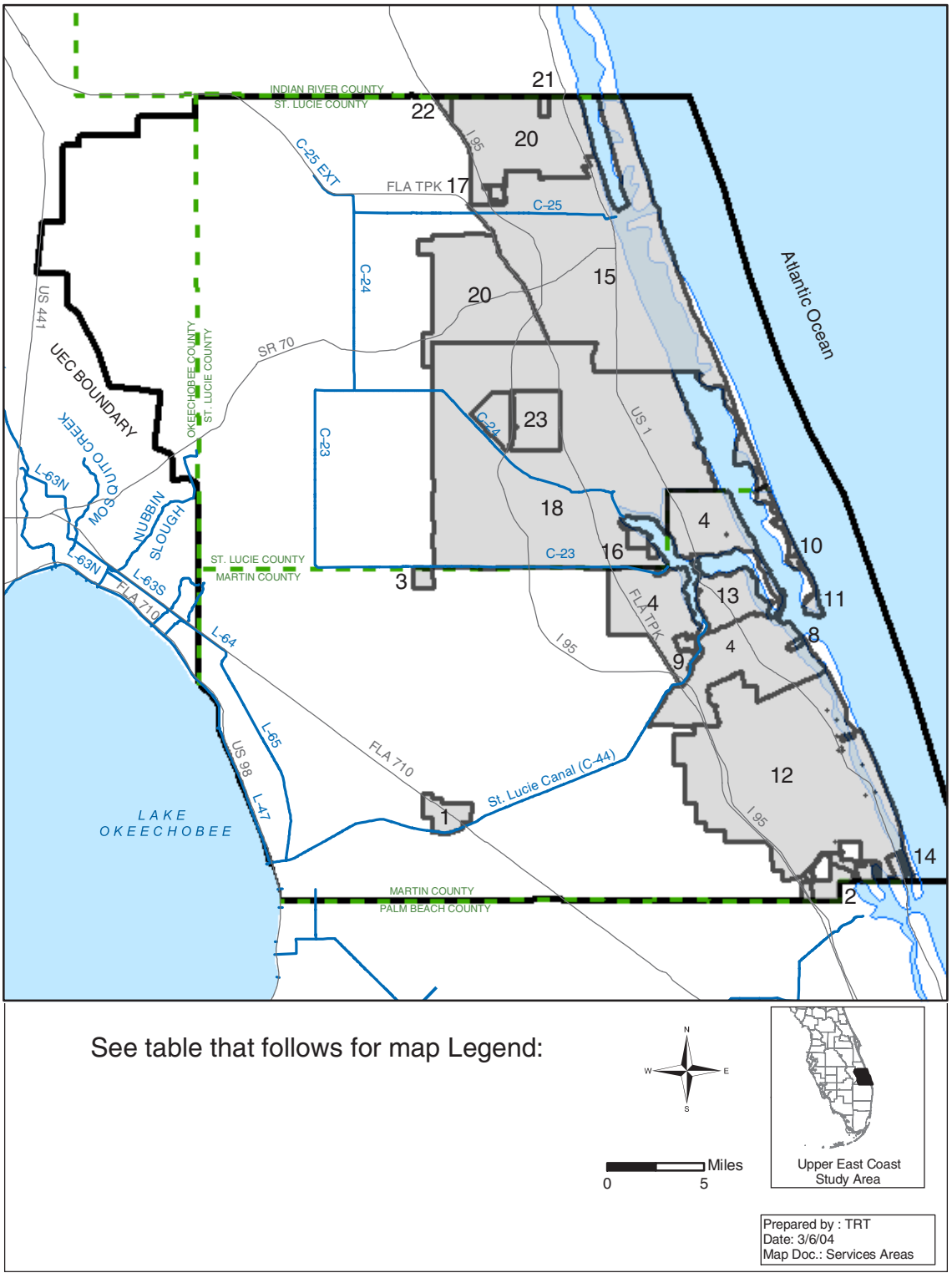

Figure B-2. Potable Water Treatment Facility Service Areas – 2025.

Table B-3. Potable Water Treatment Facility Service Areas Map Legend – 2025

Martin County	2025 Service Area Map Number
Indiantown Company	1
Jupiter	2
Martin County Correctional	3
Martin County Consolidated	4
Miles Grant	8
Piper's Landing	9
Plantation Utilities	10
Sailfish Point	11
South Martin Regional	12
Stuart	13
Tequesta	14
St. Lucie County	
Fort Pierce	15
Harbour Ridge	16
Panther Woods	17
Port St. Lucie	18
St. Lucie County – North	20
Spanish Lakes Country Club	21
Spanish Lakes Fairways	22
St. Lucie West	23

WASTEWATER TREATMENT FACILITIES

There are 29 wastewater treatment facilities (WWTFs) with a capacity of 0.10 MGD or greater in the UEC Planning Area as indicated in **Table B-4**. These facilities have a total capacity of 34.34 MGD and treated 20.20 MGD in 2003. The location of these and their associated service areas are shown in **Figure B-3**. Disposal methods used in 2003 included reuse, discharge to the ocean and deep well injection. Over 49 percent of the wastewater was reused via irrigation of golf courses, residential lots and other green space and groundwater recharge through rapid infiltration basins (RIBS).

The primary means of wastewater treatment in the UEC Planning Area is through regional wastewater treatment facilities, smaller "package plants" and septic tanks. This plan focuses on the regional facilities because they are large enough to allow economy of operation, have sufficient flows that could have a positive impact on the water resources through reuse, and support for a regional reuse program. Many are also located in areas close to potential reclaimed water users.

These wastewater facilities and proposed/future facilities are located in most of the urbanized areas throughout the UEC Planning Area as indicated in **Figure B-3**. Most of the facilities are municipally owned, and all use the activated sludge treatment process. General descriptions of the disposal methods follow.

Wastewater Management Methods

Three wastewater management methods are used in the UEC Planning Area: surface water discharge, deep well injection and reuse.

Surface Water Discharge

This method of wastewater management consists of disposing of the effluent through a pipeline to a receiving surface water. Prior to disposal, effluent is required to receive at least secondary treatment (20 mg/L carbonaceous biochemical oxygen demand, 20 mg/L total suspended solids or 90 percent removal, whichever is more stringent) and basic level disinfection. Additional levels of treatment may be required and are based on the characteristics of the effluent and the receiving water, as well as other regulatory requirements and standards. Effluent standards from this method are known as water quality based effluent limitations (WQBELs). The WQBELs are a means of determining the available assimilative capacity of a water body and setting effluent limits utilizing appropriate procedures for simulation and prediction of water quality impacts.

As regulatory requirements become more stringent, many of the discharges may choose to find alternative means for effluent disposal. In addition, any new discharge or expansion of an existing discharge must justify compliance with the state's anti-

degradation requirements prior to issuance of a permit for such a discharge. The anti-degradation rule requires a utility proposing to construct a new discharge, or expanding an existing discharge, to demonstrate that an alternate disposal method, such as reuse is not feasible in lieu of a discharge to surface water, and that such a discharge is clearly in the public interest. Only St. Lucie County South Hutchinson Island uses surface water discharge for effluent disposal, via discharge to the Florida Power & Light cooling canal to the ocean when wastewater flows exceed reclaimed water demand.

Deep Well Injection Class I Wells

This method of wastewater management consists of injecting secondary treated effluent (no disinfection required) through a casing to the boulder zone, a fractured carbonate sequence formation found at depths ranging from 1,900 to 3,600 feet below the ground surface. Deep wells also serve as an alternative means of disposal for a reuse system. Five wastewater facilities in the UEC Planning Area used deep well injection for all or part of their disposal needs in 2003.

Reuse

Reuse consists of utilizing treated wastewater (reclaimed water) for a beneficial purpose. Reclaimed water is utilized for irrigation of golf courses, residential lawns, park and other green space, and for groundwater recharge via RIBS. Some of the facilities utilize reclaimed water for plant process water, and some for irrigation of the utility site, which also could be considered reuse.

Twenty-three of the facilities use reuse for all or a portion their wastewater management needs. About 52 percent (9.40 MGD) of the wastewater treated in the planning area in 2002 was reused for a beneficial purpose with over 6.70 MGD used for irrigation. In 2002, reclaimed water was used for irrigation of 5,362 residential lots, 20 golf courses, three parks, five schools and a citrus grove (FDEP, 2003). About 1.60 MGD was used for groundwater recharge and the remainder was used for industrial and toilet flushing purposes. The results of the Plan analysis indicates that current reuse in the UEC Planning Area, primarily irrigation of golf courses, has contributed to reduced potential resource impacts.

Summary Descriptions of Existing Wastewater Facilities

Summary descriptions for each of the wastewater treatment facilities (equal to or greater than 0.10 MGD) located in the UEC Planning Area, from which the previously summarized information was obtained, are presented in the following section. Each utility capsule contains the follow information:

Treatment/Disposal – This section presents the current FDEP-rated capacity, the method of treatment and disposal, the average daily flow (ADF) (October 2002 – September 2003), and the reclaimed water/effluent chloride concentration.

Proposed/Future – This section states any current construction or permitting that is underway and known future treatment facility expansions and plans, including new additional facilities.

Martin County Wastewater Treatment Facilities

Indiantown Company

Treatment/Disposal

The wastewater treatment facility consists of an existing 0.75-MGD FDEP-rated facility with reuse via public access irrigation and RIBS. The Indiantown Company operates the facility. The 2003 average daily flow was 0.579 MGD. The maximum month average daily flow was 0.883 MGD and the minimum average daily flow was 0.480 MGD.

Proposed/Future

The Indiantown Company proposes to start design and permitting of a plant expansion to 2.0 MGD after the year 2010.

Information Source

Information was provided by the Indiantown Company.

Leilani Heights

Treatment/Disposal

The wastewater treatment facility consists of an existing 0.15-MGD FDEP-rated extended-aeration wastewater treatment plant with reuse via RIBS. The 2003 average daily flow was 0.061 MGD.

Proposed/Future

The plant will be de-commissioned with connection to Martin County in the future.

Information Source

Information was obtained from FDEP files.

Martin County Correctional Institute

Treatment/Disposal

The wastewater treatment facility consists of an existing 0.60-MGD FDEP-rated capacity activated sludge wastewater treatment plant with reuse via irrigation of citrus groves; reclaimed water is also used for toilet flushing. The facility is operated by Martin County Corrections.

The 2002 average daily flow was 0.21 MGD.

Future/Proposed

There are no plans for expansion of this facility.

Information Source

Information was obtained from the FDEP.

Martin County – Martin Downs

Treatment/Disposal

The wastewater treatment facility consists of an existing 1.75-MGD FDEP-rated capacity activated sludge wastewater treatment plant with reuse by golf course irrigation and RIBS. The facility is operated by Martin County. Irrigation with reclaimed water is implemented at the following locations:

Site	Type	2003 ADF (MGD)
Crane Creek	Golf Course	0.18
Towers	Golf Course	0.276

The 2003 average daily wastewater flow was 1.263 MGD, of which 0.456 MGD was utilized for irrigation and 0.807 MGD for RIBS. The maximum month average daily flow was 1.43 MGD and the minimum month average daily flow was 0.888 MGD. The typical average reclaimed water chloride concentration is 133 mg/L.

Proposed/Future

This facility will be abandoned in 2005 and flows diverted to Martin County's Tropical Farms WWTF.

Information Source

Information was provided by Martin County Utilities.

Martin County – North

Treatment/Disposal

The wastewater treatment facility consists of an existing 1.38-MGD FDEP-rated capacity activated sludge wastewater treatment plant with disposal by reuse and deep well injection. The facility is operated by Martin County. Irrigation with reclaimed water is performed at the following locations:

Site	Type	2003 ADF (MGD)
Eagle Marsh	Golf Course & Residential	0.50
Pineapple Park Plantation	Residential	0.25
West Jensen Development	Residential	0.75

The 2003 average daily flow was 0.92 MGD. The maximum month average daily flow was 1.09 and the minimum month average daily flow was 0.759 MGD. The typical effluent chloride concentration is 130 mg/L.

Future/Proposed

This facility is currently being expanded to 2.76 MGD, which should be completed in 2004. The reclaimed water distribution system is also being expanded to serve new developments in the vicinity of the plant, as well as serving several existing commercial properties. Martin County – North currently uses potable water for irrigation.

Information Source

Information was provided by Martin County Utilities.

Martin County – Port Salerno

Treatment/Disposal

The facility consists of an existing 1.50-MGD FDEP-rated activated sludge wastewater treatment plant with reuse via spray irrigation and RIBS. The facility is operated by Martin County. Irrigation with reclaimed water is implemented at the following locations:

Site	Type	2003 ADF (MGD)
Heritage Ridge	Golf Course	0.35
Double Tree	Golf Course	0.35

In addition, Heritage Ridge can percolate an additional 0.5 MGD of reclaimed water in their lake system. Excess reclaimed water is conveyed to the county's Tropical Farms facility.

The 2003 average daily flow was 0.886 MGD. The maximum average daily flow was 0.945 MGD and the minimum month average daily flow was 0.807 MGD. The typical reclaimed water chloride concentration is 130 mg/L.

Future/Proposed

This facility will be abandoned in 2005 and flows diverted to Martin County's Tropical Farms WWTF.

Information Source

Information was provided by Martin County Utilities.

Martin County – Tropical Farms

Treatment/Disposal

The wastewater treatment facility is permitted as a 0.94-MGD FDEP-rated conventional activated sludge secondary domestic wastewater treatment plant. The average daily flow was 0.696 MGD with reuse via public access spray irrigation.

Reuse is accomplished via the Martin County Consolidated Reuse System. The consolidated reuse system is permitted to receive reclaimed water from the Tropical Farms, Port Salerno and Martin Downs WWTFs. Currently, only the interconnection between the Tropical Farms WWTF and Port Salerno WWTF exists. The common reclaimed water main to connect all three facilities is scheduled to be constructed in 2011.

The Martin County Consolidated Reuse System is permitted to provide reclaimed water to the following users:

Site	Permitted Application Volume
Heritage Ridge Golf Course Lost Lake Course Tower Golf Course Crane Creek Golf Course Florida Club Golf Course	2.54 MGD, Annual Average Daily Flow
Halipatioke Park	0.29 MGD, Annual Average Daily Flow
Five Percolation Ponds at the Port Salerno WWTF and a Percolation Pond at Heritage Ridge	0.88 MGD, Annual Average Daily Flow
Seven Percolation Ponds at the Martin Downs WWTF	0.85 MGD, Annual Average Daily Flow

Future/Proposal

This facility will be expanded in two phases. The first phase will expand the current facility from 0.94 MGD to 5.0 MGD, and should be completed in 2005. The Martin Downs and Port Salerno WWTFs will be abandoned at that time and their wastewater flows diverted to Tropical Farms. The second phase expansion will expand the WWTF from 5.0 MGD to 7.5 MGD, and is planned to go online in 2009.

Reuse via public access spray irrigation will be the primary means of disposal with deep well injection as a backup.

Information Source

Information was provided by Martin County.

Miles Grant

Treatment/Disposal: The wastewater treatment facility consists of an existing 0.30-MGD FDEP-rated activated sludge wastewater treatment plant with reuse by golf course irrigation.

Site	Type	2003 ADF (MGD)
Miles Grant	Golf Course	0.112

The 2003 average daily wastewater flow was 0.112 MGD, of which 0.112 MGD was utilized for irrigation. The maximum month average daily flow was 0.126 MGD and the minimum month daily flow was 0.098 MGD.

Proposed/Future

There are no plans for future expansion of this facility.

Information Source

Information was provided by Utilities Inc., of Florida.

Piper's Landing

Treatment/Disposal

The wastewater treatment facility consists of an existing 0.10-MGD FDEP-rated activated sludge wastewater treatment plant with reuse via golf course irrigation at the Piper's Landing Golf Course.

The 2003 average daily wastewater flow was 0.072 MGD.

Proposed/Future

The community is about 95 percent built-out and there are no plans to expand their service area.

Plantation – Martin County

Treatment/Disposal

The wastewater treatment facility consists of an existing 0.30-MGD activated sludge wastewater treatment plant with reuse via golf course irrigation and the Plantation Golf Course. The 2002 average daily flow was 0.15 MGD.

Proposed/Future

There are no plans for future expansion of this facility.

Information Source

Information was provided by the Plantation utility.

Sailfish Point

Treatment/Disposal

The wastewater treatment facility consists of an existing 0.250 MGD FDEP-rated extended-aeration wastewater treatment plant with reuse by golf course irrigation at the Sailfish Point Country Club Golf Course.

The 2003 average daily wastewater flow was 0.100 MGD. The maximum month average daily flow was 0.192 MGD.

Proposed/Future Use

The utility service area has reached build-out. There are no plans for expansion.

Information Source

Information was provided by the Sailfish Point Utility Corporation.

South Martin Regional Utility (SMRU)

This facility was formerly known as Hydratech Wastewater Treatment Facility in the 1998 Plan. The utility was purchased by the Town of Jupiter Island and is operating under the authority of the SMRU.

Treatment/Disposal

The wastewater treatment facility consists of an existing 1.20-MGD activated sludge (contact stabilization) wastewater treatment plant with reuse by golf course irrigation and RIBS. The facility is operated by SMRU. Irrigation with reclaimed water is implemented at the following locations:

Site	Type	2003* ADF (MGD)
Loblolly Pines	Golf Course	0.15
McArthur Golf Club	Golf Course	0.20
The Medalist	Golf Course	0.20

The 2003 average daily wastewater flow was 0.64 MGD. The maximum month average daily flow was 0.75 MGD in March and the minimum month average daily flow was 0.54 MGD in June. The typical reclaimed water chloride concentration is 76 mg/L.

Proposed/Future

This facility has existing capacity to produce 1.2 MGD of reclaimed water for public access irrigation. This system will be expanded accordingly as flows increase, with the intention of reusing all wastewater treated at this facility via public access irrigation. Eaglewood Country Club and Hobe Sound Golf Club will have reclaimed water available by the end of 2004. Discussions are taking place with the Jupiter Island Club on the potential of using reclaimed water. Existing groundwater wells being used as the irrigation source for Eaglewood Country Club will be converted to a supplemental source to the reuse system. Also, plans are being considered to build a new regional facility west on Bridge Road.

Information Source

Information was supplied by the South Martin Regional Utility.

*Note: September 2002 to October 2003

Stuart

Treatment/Disposal

The wastewater treatment facility consists of an existing 4.00-MGD FDEP-rated activated sludge treatment plant with effluent disposal via deep injection wells with a rated capacity of 13.5 MGD. The 2003 average daily flow was 1.70 MGD. The 2003 maximum daily was 2.16 MGD.

Proposed/Future

At this time, the City of Stuart Wastewater Treatment Plant is running a 2.11-MGD 3-maximum month average daily flow. The current remaining plant capacity is 1.89 MGD. Based on the projected future flow rates for the wastewater treatment plant, no future plant expansion will be required. Based on city data, if the city were to continue on its present course, the wastewater plant would reach a build-out annual average daily flow of 3.05 MGD and a 3-maximum month average daily flow of 3.42 MGD in 2038.

The City of Stuart is initiating a feasibility study and master plan to identify opportunities for reuse, with a focus on reducing groundwater withdrawals for irrigation in the vicinity of its wellfields.

Information Source

Information was supplied by the City of Stuart.

St. Lucie County Wastewater Treatment Facilities

Fort Pierce Utilities Authority

Treatment/Disposal

The wastewater treatment facility consists of an existing 10.0-MGD FDEP-rated activated sludge wastewater treatment plant with disposal via deep well injection.

The 2003 average daily wastewater flow was 5.62 MGD. The maximum month average daily flow was 6.37 MGD and the minimum month average daily flow was 5.52 MGD.

Proposed/Future

Fort Pierce Utilities Authority (FPUA) recently began planning construction for reuse. A 20-inch reclaimed water line to cross the Indian River Lagoon was constructed for this purpose. Several customers have been identified for reuse. The deep well will serve in conjunction with the reuse system once it is implemented.

The FPUA is designing a 1.0-MGD reclaimed water treatment system to provide reclaimed water to a proposed Harbour Isle development and other city properties in the vicinity of the WWTF.

The FPUA Water and Wastewater Master Plan projects future annual wastewater flows of 13.8 MGD and maximum month average daily demand wastewater flows of 17.4 MGD for the ultimate service area in the year 2025. These flows are greater than the capacity of the existing wastewater treatment plant. A 25-acre site in Fort Pierce has been purchased for a mainland wastewater treatment facility. Phase 1 is expected to go on line in late 2010. The proposed plant will incorporate reclaimed water treatment processes.

Information Source

Information was provided by the City of Fort Pierce Utilities.

Harbour Ridge

Treatment/Disposal

The wastewater treatment facility consists of an existing 0.120-MGD FDEP-rated extended-aeration wastewater treatment with reuse by public access irrigation at the Harbour Ridge Golf Course and by RIBS.

The 2003 average daily wastewater flow was 0.07 MGD, all of which was used to irrigate the golf course.

Future/Proposed

Harbour Ridge reached build-out in 1996 with 695 housing units and a population of approximately 1,573 persons. There are no plans to modify the existing permit.

Information Source

Information was provided by Harbour Ridge Property Owners Association.

Meadowood/Panther Woods

Treatment/Disposal

The wastewater treatment facility consists of an existing 0.150-MGD FDEP-rated activated sludge wastewater treatment plant with reuse via irrigation of the Panther Woods Golf Course. The 2003 average daily flow was 0.04. The maximum month average daily flow was 0.050 MGD and the minimum month average daily flow was 0.033 MGD.

Proposed/Future

No expansions are planned for Harbour Ridge...

Information Source

Information was provided by Walsh Environmental Services, Inc.

Port St. Lucie

Port St. Lucie – Glades (Proposed)

Port St. Lucie operates three wastewater treatment facilities: Northport, Southport and Westport. They are currently designing a western "Glades" wastewater treatment facility that will replace the Northport facility. In addition, the Westport facility is being expanded and flows from the Southport facility will be diverted to this facility.

Treatment/Disposal

The wastewater treatment facility will consist of a 6.0-MGD FDEP-rated activated sludge wastewater treatment plant in late 2006. Once the Glades plant is operational, inflow from the Port St. Lucie Northport plant will be diverted to the Glades plant where reuse/irrigation quality water will be produced. The Northport facility will be inactivated in 2007, and held available should additional treatment capacity be needed.

An expansion of this facility to 12.0 MGD is planned by 2001.

Information Source

Information was provided by the City of Port St. Lucie and the *Annual Wastewater Capacity Analysis Report*.

Port St. Lucie Northport Plant

Treatment/Disposal

The wastewater treatment facility consists of an existing 2.5-MGD FDEP-rated activated sludge wastewater treatment plant, with effluent disposal via a 3.53-MGD deep injection well. Construction of an interconnection between the Northport and the Westport wastewater treatment facilities in 2003 provided the utility with valuable options for redirecting wastewater flows for treatment.

The 2003 average daily wastewater flow was 1.39 MGD.

Proposed/Future

The city plans to construct an additional wastewater treatment facility, known as the "Glades Wastewater Treatment Plant" on recently purchased land in the northwest portion of the city's utility service area. The Glades plant is expected to be on-line at 6.0-MGD in late 2006, at which time, inflow from the Northport plant will be diverted to the Glades plant, where reuse/irrigation quality will be produced. The city plans to increase the Glades plant to 12.0 MGD around 2011. The Northport facility will be inactivated in 2007, and held available should additional treatment capacity be needed.

Information Source

Information was provided by the City of Port St. Lucie and the *Annual Wastewater Capacity Analysis Report*.

Port St. Lucie Southport

Treatment/Disposal

Treatment is provided via a 2.8-MGD FDEP-rated activated sludge effluent disposal facility. Reclaimed water/effluent disposal by Southport WWTF is by deep well injection, and spray irrigation at the nearby Ballantrae Golf Course.

The 2003 average daily wastewater flow was 2.01 MGD.

Proposed/Future

The current utility is to phase-out the Southport Wastewater Treatment Plant by 2012. Currently, the design of a force main to divert the effluent from the Southport plant to the Westport WWTF is in progress. Flows exceeding 2.0 MGD will be diverted to the Westport facility. The city is planning to provide a reuse return line from the Westport wastewater plant to the Ballantrae golf course for irrigation purposes.

Information Source

Information was provided by the City of Port St. Lucie and the *Annual Wastewater Capacity Analysis Report*.

Port St. Lucie – Westport

Treatment/Disposal

The wastewater facility consists of a 1.38-MGD FDEP-rated activated sludge wastewater treatment facility with reuse via nine acres of RIBS. A newly constructed 12.0 MGD deep injection well was put in service in 2003, and the facility was re-rated to 1.38 MGD.

The 2003 average daily flow was 0.322 MGD.

Construction of an interconnection from the city's Northport Wastewater Treatment Plant was completed in 2003, thereby creating the possibility that a portion of the Northport plant's flows could be diverted to the Westport plant, if necessary.

Proposed/Future

Facilities are under construction to provide 2.0 MGD of reclaimed/irrigation quality water in late 2004. The nearby upscale Tesoro Development has already submitted an irrigation quality water application to the city and service contract negotiations are well underway so that irrigation quality water will be supplied to the development, as soon as it is available from Westport WWTF. Until Westport WWTF's flows are sufficient to meet Tesoro's anticipated 2.0 MGD irrigation demands, the city will rely on its permitted ability to supplement reclaimed water flows with surface water from adjacent canals and lakes.

An expansion of the Westport WWTF to 4.0 MGD is underway and scheduled for completion in February 2005. Reuse will be the primary means of disposal. Once the expansion is completed, the Southport facility will divert flows exceeding 2.0 MGD until 2012, when the plant will be abandoned and flows diverted to the Westport facility.

A second 2.0-MGD expansion is planned for Westport in 2008 to bring the facility's capacity to 6.0 MGD. Another 2.0-MGD expansion is planned in 2011, and a 12.0-MGD expansion is planned for 2015, bringing the facility's capacity to 20.0 MGD.

Information Source

Information was provided by the City of Port St. Lucie and the *Annual Wastewater Capacity Analysis Report*.

Reserve

Treatment/Disposal

The wastewater treatment facility consists of an existing 0.175-MGD FDEP-rated activated sludge wastewater treatment plant, with reuse via RIBS. The Reserve Community Development District (CDD) operates the facility.

The 2003 average daily wastewater flow was 0.131 MGD, with a maximum daily flow of 0.190 MGD.

Proposed/Future

The utility has been approved to transfer excess wastewater to St. Lucie West wastewater facility thru a 12-inch force main. Future plans involve increasing the raw water transfer to St. Lucie West on an as needed basis.

***Note:** St. Lucie West is under contract to provide water and sewer service to the Reserve Utility.

Information Source

Information was supplied by the Reserve Utility Corporation.

St. Lucie County – North (Holiday Pines)

Treatment/Disposal

The wastewater treatment facility consists of an existing 0.21-MGD FDEP-rated activated sludge wastewater treatment plant with reuse via RIBS. The 2003 average daily flow was 0.122 MGD. The maximum month average daily flow was 0.129 MGD and the minimum month average daily flow was 0.114 MGD.

Proposed/Future

Negotiations are taking place with Fort Pierce Utilities for the City of Fort Pierce to receive of the North Utility District's wastewater. When this document was prepared, the North Utility District was conducting a site analysis study for the possibility of building a regional wastewater facility for the North County Area.

Information Source

Information was provided by St. Lucie County Utilities.

St. Lucie County – North Hutchinson Island

Treatment/Disposal

The wastewater treatment facility consists of an existing 0.50-MGD FDEP-rated WWTF with reclaimed water public access spray irrigation consisting of 0.281 MGD on a 25-acre irrigation site at Pepper Park (a public park), 0.031 MGD on 3.5 acres of on-site irrigation and 0.188 MGD on 25 acres of irrigation for residential developments.

The 2003 average daily flow was 0.282 MGD. The maximum month average daily flow was 0.358 MGD and the minimum month average daily flow was 0.226 MGD.

Proposed/Future

There are no proposed or future expansion plans for this facility.

Information Source

Information was provided by St. Lucie County Utilities.

St. Lucie County – South Hutchinson Island

Treatment/Disposal

The wastewater treatment facility consists of an existing 1.60-MGD FDEP-rated extended-aeration facility. Disposal is via public access irrigation of condominium and other green space on the island. Surplus reclaimed water is discharged to the Florida Power & Light (FPL) St. Lucie Nuclear Power Plant cooling water discharge canal, which goes to the Atlantic Ocean.

The 2003 average daily flow was 0.448 MGD. The maximum month average daily flow was 0.723 MGD and the minimum month daily flow was 0.260 MGD.

Proposed/Future

There are no plans for expansion at this facility.

Information Source

Information was provided by St. Lucie County Utilities.

Savanna Club

Treatment/Disposal

The wastewater treatment facility consists of an existing 0.15-MGD FDEP-rated extended-aeration wastewater treatment plant with reuse via RIBS. The 2003 average daily flow was 0.084 MGD.

Proposed/Future

There are no plans for expansion of this facility.

Information Source

Information was obtained from FDEP files.

Spanish Lakes Country Club Village

Treatment/Disposal

Treatment is provided via a 0.160-MGD FDEP-rated activated sludge wastewater treatment facility with reuse via RIBS and absorption fields.

The 2003 average daily wastewater flow was 0.090 MGD.

Proposed/Future

There are no plans for expansion of this facility.

Information Source

Information was provided by Spanish Lakes Country Club.

Spanish Lakes Fairways

Treatment/Disposal

The facility is an existing 0.250-MGD FDEP-rated activated sludge wastewater treatment plant, with reuse via golf irrigation and RIBS on the Spanish Lakes Fairway Golf Course.

In 2003, the average daily flow was 0.145 MGD; the maximum daily flow was 0.172 MGD.

Proposed/Future

There are no plans for expansion of this facility.

Information Source

Information was supplied by Spanish Lakes Fairways Utilities staff.

St. Lucie West Services District

Treatment/Disposal

The wastewater treatment facility consists of an existing 2.0-MGD FDEP-rated activated sludge wastewater treatment plant, limited to 2.0 MGD, with reuse by irrigation of all landscape areas within the development, including residential areas, via a dual water system. Reclaimed water is used to irrigate the St. Lucie County Stadium, a 100-acre golf course, 1,200 acres of residential home sites, a 6-acre clubhouse and 30 acres of medium strips with 650 acres of additional residential irrigable acres available as new homes are built. Emergency discharge is to a man-made lake located east of the plant site.

The 2003 average daily wastewater flow was 1.02 MGD. The maximum month average daily flow was 1.10 MGD and minimum month average daily flow was 0.80 MGD. Reclaimed water supplies are supplemented with water from the developments' stormwater management system. An average of 2.15-MGD was withdrawn for on-site lakes to supplement reclaimed water flows. The typical average reclaimed water chloride concentration is 137 mg/L.

Proposed/Future

The projected build-out wastewater flows are estimated at 1.70 MGD, to be reached around 2014. The ultimate irrigation demand is projected to be about 7.0 MGD. Excess flows from the Reserve Community Development District will be diverted to St. Lucie West.

***Note:** St. Lucie West is under contract to provide water and sewer service to the Reserve Utility.

Information Source

Information was supplied by St. Lucie West.

Table B-4. Wastewater Treatment Facilities in the UEC Planning Area – 2003.

Facility	FDEP Rated Capacity (MGD)	2003 Average Daily Flow (MGD)[a]	Disposal Method				
			Deep Well (MGD)	Surface Water Discharge (MGD)	Reuse		
					Public Access Irrigation (MGD)	Rapid Infiltration Basins (MGD)	Other (MGD)[b]
Martin County							
Indiantown	0.75	0.58			0.13	0.45	
Leilani	0.15	0.06				0.06	
Martin County Correctional	0.60	0.21			0.19		0.02
Martin County - Martin Downs	1.75	1.26			0.46	0.81	
Martin County - North	1.38	0.92	0.31		0.61		
Martin County – Port Salerno	1.50	0.89			0.83	0.06	
Martin County - Tropical Farms	0.94	0.68			0.61	0.07	
Miles Grant	0.30	0.11			0.11		
Piper's Landing	0.10	0.07			0.07		
Plantation Utilities	0.30	0.15			0.15		
Sailfish Point	0.25	0.10			0.10		
South Martin Regional Utility	1.20	0.64			0.64		
Stuart	4.00	1.70	1.70				
Martin County Subtotal	13.22	7.37	2.01	0	3.90	1.44	0.02

a. Average withdrawal from October 2002 to September 2003.

b. Other reuse includes use of reclaimed water for use at wastewater treatment facilities and for toilet flushing.

c. Reuse at the wastewater treatment facility.

d. This figure includes the average daily flow figure plus reuse figure for public irrigation.

e. The Spanish Lakes Riverfront and Spanish Lakes East facilities were decommissioned in 2003 and connected to the City of Port St. Lucie.

Table B-4. Wastewater Treatment Facilities in the UEC Planning Area – 2003 (Continued).

Facility	FDEP Rated Capacity (MGD)	2003 Average Daily Flow (MGD)[a]	Disposal Method				
			Deep Well (MGD)	Surface Water Discharge (MGD)	Reuse		
					Public Access Irrigation (MGD)	Rapid Infiltration Basins (MGD)	Other (MGD)[b]
St. Lucie County							
Fort Pierce	10.00	5.62	5.17				0.45[c]
Harbour Ridge	0.12	0.07				0.07	
Panther Woods	0.15	0.04			0.04		
Port St. Lucie - Northport	2.50	1.39	2.44[d]		0.05	0.01	
Port St. Lucie - Southport	2.80	2.01	1.52		0.49		
Port St. Lucie - Westport	1.38	0.32				0.32	
Reserve	0.18	0.13				0.13	
Savanna Club	0.15	0.08				0.08	
Spanish Lakes Country Club	0.16	0.09				0.09	
Spanish Lakes East[e]	See footnote below						
Spanish Lakes Fairways	0.25	0.15			0.10	0.05	
Spanish Lakes Riverfront[e]	See footnote below						
St. Lucie County - North (Holiday Pines)	0.21	0.12			0.12		
St. Lucie County - North Hutchinson	0.50	0.28			0.28		
St. Lucie County - South Hutchinson Island	1.60	0.45			0.45		
St. Lucie West	2.00	1.02			3.17[d]		
St. Lucie County Subtotal	22.00	11.77	9.12	0	1.53	0.75	0.45
UEC Planning Area Total	35.22	19.14	11.13	0	5.43	2.20	0.47

a. Average daily flow from October 2002 to September 2003.

b. Other reuse includes use of reclaimed water at the wastewater treatment facility and for toilet flushing.

c. Reuse at the wastewater treatment facility.

d. This figure includes the average daily wastewater flow figure plus water from supplemental sources.

e. The Spanish Lakes Riverfront and Spanish Lakes East facilities were decommissioned in 2003 and connected to the City of Port St. Lucie.

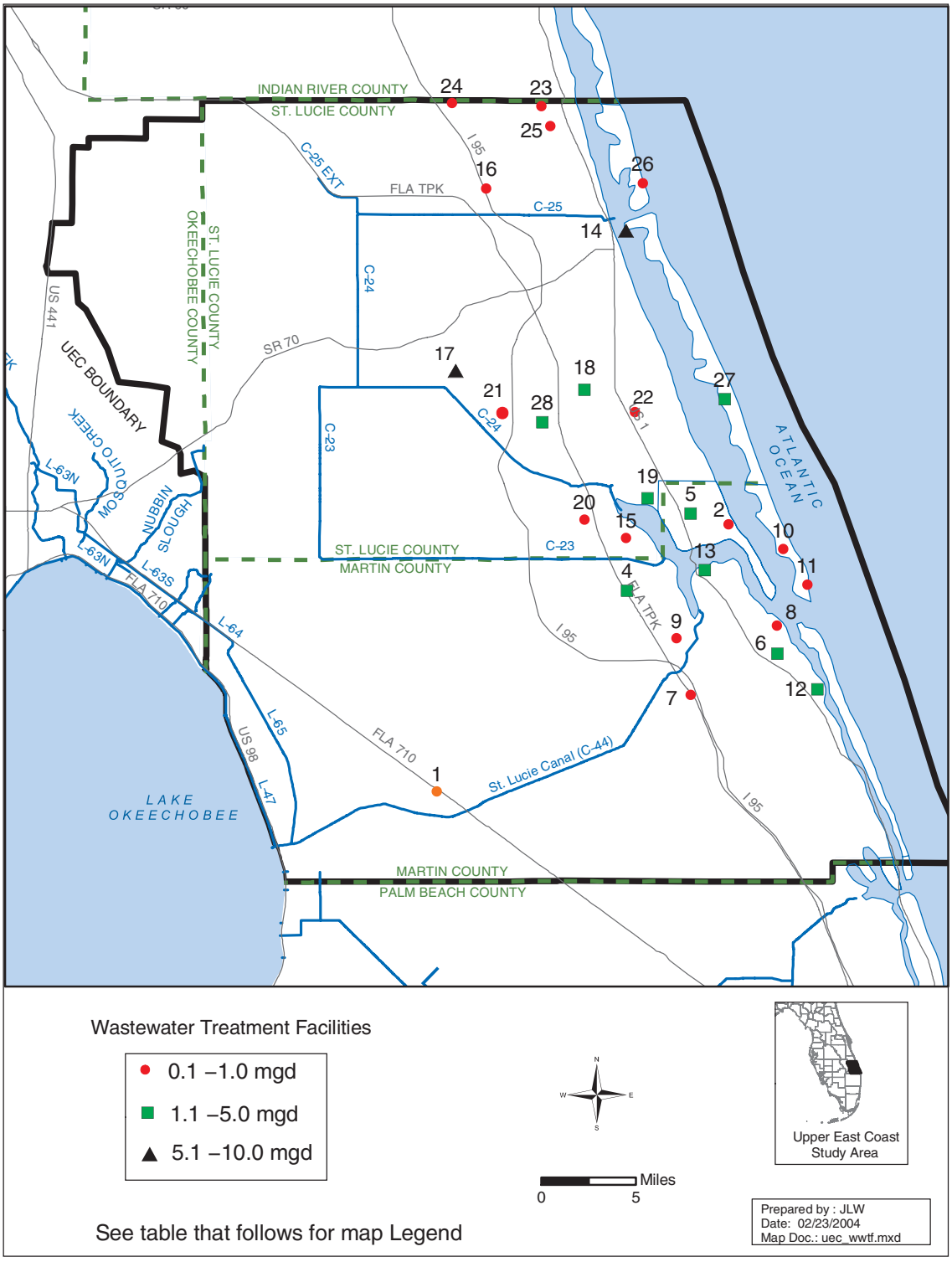

Figure B-3. Wastewater Treatment Facilities in the UEC Planning Area.

Table B-5. Wastewater Treatment Facility Service Areas Map Legend – 2003.

Martin County	2003 Service Area Map Number
Indiantown Company	1
Leilani Heights	2
Martin County Correctional	3
Martin County – Martin Downs	4
Martin County – North	5
Martin County – Port Salerno	6
Martin County – Tropical Farms	7
Miles Grant	8
Piper's Landing	9
Plantation Utilities	10
Sailfish Point	11
South Martin Regional	12
Stuart	13
St. Lucie County	
Fort Pierce	14
Harbour Ridge	15
Panther Woods	16
Port St. Lucie – Glades	17
Port St. Lucie – Northport	18
Port St. Lucie – Southport	19
Port St. Lucie – Westport	20
Reserve	21
Savanna Club	22
Spanish Lakes Country Club	23
Spanish Lakes Fairways	24
St. Lucie County – North	25
St. Lucie County – North Hutchinson Island	26
St. Lucie County – South Hutchinson Island	27
St. Lucie West	28

REFERENCES CITED

Florida Department of Environmental Protection. 2003. *Florida Department of Environmental Protection Reuse Inventory*. Tallahassee, FL. vari. pag.